

DETAILED ACTION

1. This Office Action is in response to amendments filed 5/16/2008. Due to new grounds of rejection this Office Action has been made Non Final. It is noted that claim 17 has been cancelled.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Feygin 5,273,406.

Feygin discloses a pump apparatus comprising a pump chamber (actuating segment 1, 8, and actuating segment 2) defined in part by a gas permeable member 2; a first pinch valve (actuating segment 1) and a second pinch valve (actuating segment 2) wherein each said pinch valve comprises a member 1 that defines part of a flow path for material through the pump, and wherein said pinch valve members open and close in response to pneumatic pressure applied thereto (see col. 4, lines 59-61); wherein during pump operation gas is drawn out of said chamber to draw material into said chamber under negative pneumatic pressure and pressurized gas flows into said chamber to push material out of said chamber under positive pneumatic pressure (see col. 4, lines 59-68 and col. 5, lines 1-21); said first and second pneumatic pinch valves being operable to control flow of material into and out of said pump chamber. Feygin

further discloses that first and second pinch valves can be separately actuated (see col. 5, lines 21-24). Feygin further discloses that the pinch valves can be independently actuated open and closed with respect to each other (see col. 5, lines 21-24). Feyin also discloses that the pinch valves can be independently actuated open and closed with respect to application of negative and positive pressure to said pump chamber (see col. 5, lines 21-24). Feygin further discloses that the pinch valves can be independently actuated open and closed with respect to each other (see col. 5, lines 21-24).

4. Claim 27 is rejected under 35 U.S.C. 102(b) as being anticipated by Tamari 4,250,872.

Tamari (Fig. 2) discloses a pump apparatus comprising a pump chamber (see chamber within 22) defined in part by a gas permeable member (see baffle which contains passage 38a) disposed in a pressure chamber 25'; a first pinch valve (see left side of the baffle in Fig. 2) and a second pinch valve (section to the right of the baffle in Fig. 2) wherein each said pinch valve comprises a member that defines part of a flow path for material through the pump (see 22b and section of 22 on right side of the baffle); wherein during pump operation material flows into said chamber under negative pressure and material flows out of said chamber under positive pressure; wherein flow rate of material from the pump could be controlled as a function of duration time of said negative pressure.

Furthermore, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function, because apparatus claims cover what a device

is, not what a device does (Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990)). Thus, if a prior art structure is capable of performing the intended use as recited in the preamble, or elsewhere in a claim, then it meets the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feygin 5,273,406 in view of Ray, Jr. 3,951,572.

Feygin discloses the invention as discussed above as well as a second pump chamber (actuating segment 3, 8, and actuating segment 4) and third (actuating segment 3) and fourth (see actuating segment 4) pneumatic pinch valves. Feygin further discloses that the first, second, third and fourth valves can be separately actuated. However, Feygin does not teach the following claimed limitations taught by Ray, Jr.

Ray, Jr. teaches an apparatus for pumping comprising first and second pump chambers 10, 10', pneumatic pinch valves 42', 42", and a common outlet 14. Ray, Jr. further teaches that material is transferred to a common outlet 14 by alternate flow through said first and second pump chambers (see abstract).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the pumping assembly of Feygin by placing the pumping chambers in parallel and having them pump to a common outlet in order to create a constant flow of material (see col. 1, lines 44-45).

7. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feygin 5,273,406 in view of Polaschegg 4,552,552.

Feygin discloses a pump apparatus comprising a pump chamber (actuating segment 1, 8, and actuating segment 2); wherein during pump operation material flows into said pump chamber under negative pressure and material flows out of said pump chamber under positive pressure during a pump cycle (see col. 4, lines 59-68 and col. 5, lines 1-21); wherein flow rate of material from the pump could be adjustable independent of the pump cycle duration. Feygin further discloses a suction pinch valve (actuating segment 1) and a delivery pinch valve (actuating segment 2) that control flow of material in and out of the pump chamber respectively, said pinch valves having open/closed times that are separately controllable from the pump cycle time (see col. 5, lines 21-24). Feygin also discloses a control circuit (see col. 4, lines 59-61 and col. 5, lines 21-24) that may adjust duration of time that the negative pressure is applied to the pressure chamber to adjust flow rate. However, Feygin does not teach the following claimed limitations taught by Polaschegg.

Polaschegg discloses a pump apparatus comprising an actuating segment (see Fig. 3) comprising a first pinch valve 66, defined in part by a gas permeable member 68 disposed in a pressure chamber (walled by 94).

Therefore, it would have been obvious at the time of invention to have modified the pump apparatus of Feygin by replacing the actuating segments of Feygin with the segment shown in Fig. 3 of Polaschegg in order to have the pump chamber (which is a combination of two actuating segments and the tubing in between) defined in part by a gas permeable member (68 in Polaschegg) disposed in a pressure chamber so as to allow the pinch valve to be contracted in whichever way desired (see col. 10, lines 6-11).

In addition, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function, because apparatus claims cover what a device is, not what a device does (Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990)). Thus, if a prior art structure is capable of performing the intended use as recited in the preamble, or elsewhere in a claim, then it meets the claim.

Response to Arguments

8. Applicant's arguments filed 5/16/2008 have been fully considered but they are not persuasive.
9. In response to Applicant's arguments with respect to amended claim 1: Applicant is believed to be arguing more than is claimed. Although Feygin is peristaltic pump, the interpretation by the Examiner still reads on the limitations as claimed. The reason for this is that the "pump chamber" has been interpreted as a combination of actuating segment 1, element 8, and actuating segment 2 in Feygin. Under this interpretation gas

is most certainly drawn out of element 2 in the actuating segments, which in turn draws material into 11 (which is still within the pumping chamber), due to a negative pneumatic pressure. Likewise, gas also flows into said chamber, via element 7, to push material out of said chamber, through the constricting of 11, under a positive pneumatic pressure. This sequence can be seen in figures 3-6. Therefore, the disclosure of Feygin still reads on the application as claimed.

10. Applicant's arguments with respect to claims 27-31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER J. BERTHEAUD whose telephone number is (571)272-3476. The examiner can normally be reached on M-F 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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